AL SCIENCES /DETROIT PUBLIC LIBRARY AUG 8 1960

Volume Nineteen

Number Seven

URBAN LAND

NEWS AND TRENDS . . . IN CITY DEVELOPMENT

July-August, 1960

PUBLISHED BY URBAN LAND INSTITUTE

THE DYNAMICS OF URBAN LAND
ULI Announces New Research Program and Appointment of Research Director

Dr. Jerome P. Pickard of Washington, D. C., nationally known research economist, is joining the Staff on September 1, to head ULI's expanded research program into the process of change in land use. Dr. Pickard was formerly research director of Hammer and Company Associates, economic consultants of Atlanta and Washington. From 1954 to 1959, he was research director of the Metropolitan Washington Board of Trade, and earlier was research associate with Homer Hoyt Associates, market analysts. He has served on the faculties of State University of New York, University of Maryland, American University, and George Washington University. He holds a masters degree in Economic Geography from the University of Wisconsin, a doctorate from Syracuse University, and is a former Fulbright Scholar.

The research program Dr. Pickard will head will concentrate on the forces in urban land use which make for the creation, preservation, deterioration, and recovery of urban areas. The program will also study the instruments of public policy that may be used to guide, restrain, or stimulate these forces. The initial project consists of five related studies to be conducted over a period of several years.

Program Outline

ULI's objective in the program is to develop a better understanding of the underlying forces which produce urban change. Most studies in these fields have been preoccupied with projecting existing or past conditions into the future. ULI's concern will be to explore these forces in search of a better understanding of them and ways of dealing with them constructively.

The five related studies to be undertaken are:

1. *Comparative Study of Land Uses in Declining and Stable Areas*

This study will include both a comparative analysis of existing studies of changing patterns of land use and field study of factors related to the deterioration, maintenance and recovery of neighborhoods. A primary purpose of the survey will be to identify and evaluate the influences making for change in land use. It will endeavor to reveal the pressures that bring about trends of growth or decline of communities at different stages of development.

Detailed examinations will be made of the reasons why some residential developments retain their character when others do not and why some properties change use while nearly identical properties remain in the same use. Examination will also be made of the market conditions which determine the development of land use patterns and the preferences of owners and users for particular sites. Careful consideration will be given to the interrelations of the forces affecting demand for the various types of land use in the selected areas analyzed. Types of areas to be studied will include those in which change is taking place and areas where revival has been accomplished. Illustrative of the kinds of situations to be studied are such areas as Morningside Heights, the revival of Beacon Hill and Georgetown, the shift in the location of a high class residential area of Chicago from the near south side to the near north side in the early part of the century and transition of Linden Boulevard, St. Louis, West Market Street, Philadelphia, and upper Park Avenue, New York to commercial and institutional uses.

In the organization of this study particular attention will be given to possibilities of producing information that will make a contribution to the other proposed studies. Likewise, in conduct of the other studies similar attention will be given to the development of data which will help to identify the significant influences on changes of land use.

2. *Real Estate Taxation*

This study will deal with tax policy affecting land uses, with special attention given to local and state property taxes and federal income taxes. Account will be taken of the possibility of developing alternative methods for taxing real estate and for supporting local government, the significance of full or partial tax exemption of property, the effects of taxation on land prices and the character of land improvements, the effect of depreciation allowances on capital gains provisions, and other features affecting decisions to develop land, and the possibility of using taxation as a positive instrument of public policy in the development of urban land.

Among the key questions to be considered will be: Do the particular forms of taxes promote or encourage or discourage ownership for speculation as against long-term investment? Do they encourage or discourage the acquisition of large holdings or of individual parcels of land? Do they affect the attitudes of property owners and of policy-making officials of financing institutions toward present or new use? Do they encourage or discourage owners of property from improving property? Do they promote or retard the development of particular uses? Do they influence the intensity of land use? Do they contribute to the problems of expanding suburban growth?

3. *The Use of the Power of Eminent Domain*

This study will examine the bases of determining compensation where condemnation is employed. A primary purpose of the inquiry will be to explore the question of how inflated values due to socially unacceptable uses of property can be overcome.

It will examine the theory upon which values of property in condemnation are set and the results of applying the theory. Consideration will be given to the extent to which condem-

(Continued on Page 10)

If reproduced in whole or in part, credit must be given to URBAN LAND *and to the author.*

Plan-itorial . . .

Home Buying Motivations

The motivations behind the buying public, or those lying behind any action of the human being, for that matter, have long been a preoccupation of salesmen and scientists. Sociologists have attempted to develop a science around the subject, and engineers have tried to build highways based on "O & D" studies and "Desire Lines." The subject of human motivation has a fascination all its own. This in turn may have motivated Paul Copaken and Richard Freundlich, two young seniors in real estate at the University of Pennsylvania's Wharton School, to choose home buying motivations as their senior thesis.

Their approach to the job at hand was thorough and well considered, and their qualifications of the limitation in the general applicability of the results were carefully stated. If the results do have any general applicability, which is not claimed by the authors, they contain some food for thought.

A series of personal interviews was conducted among fifty housewives in a new development of a suburban community of 12,000 persons 40 miles from Philadelphia's City Hall.

All families had purchased new homes in the development within the past year. The houses were split levels, ranging from $14,000-$18,000 in price. A careful survey was made of family characteristics with the following results: 80 per cent had four or less persons; age—two-thirds under 35; occupation—42 per cent professional, executive and managerial; income—82 per cent between $4,000 and $7,000; school children—44 per cent five years and over. Other data covered religion, location of employment, previous housing accommodations, and reason for entering the buyer's market. The results in some instances are quite different from what was expected.

To see whether this was one big, happy suburban family socializing together, meeting to further the ends of the community and generally living in the fraternal spirit that is often associated with suburban life, the housewife was questioned about two types of inter-family relationships. The interviewer asked how many civic functions the respondent had attended within the last year, and how frequently she spent an evening with people living on her own block. The answers are not in accord with some of the popular conceptions of Suburbia.

The authors summarize the original purpose and limits of the study and their interpretation of the findings as follows:

This study has attempted to indicate how home builders can use market data about families who purchase their homes, and suburban home buyers generally to increase the efficiency and profitability of their operations. The information presented here is based on an investigation of a group of recent buyers in Inglewood Manor, a development of $14,000-$18,000 homes in suburban Philadelphia. It was assumed in this inquiry that families entering the market for a new home seek to satisfy certain real and readily identifiable desires in the home they purchase. The stated desires of the Inglewood buyers have been presented and analyzed. Certain factors induced the purchasers to buy in this development rather than anywhere else. These factors also have been described. In each case, an effort has been made to show how the data can be useful as well as interesting.

The characteristics of the buyers were studied to tell the builder whom he is now attracting. Of the families that purchased in the development, 80 per cent consisted of four or fewer people. They were composed of relatively young parents and children. Two-thirds of the husbands were under thirty-five years old, as were over four-fifths of the wives. More than half of the children were under five years old. The families moved from a wide area; however, 36 per cent moved from inside the Philadelphia city limits. Thirty per cent of the families had lived in apartments before moving. Varied reasons were stated for entering the market for a house, but fully one-third stated that they decided to move simply because they wanted to own their own home. Nine out of ten purchasers were seeking a single house, and two-thirds were looking only in the northern suburbs of Philadelphia. The firm desire to buy only a new house existed among 60 per cent of the families.

This information tells the builder whom he is or is not attracting. With this knowledge, he can make a decision concerning whom he wants to attract in the future. Believing that people with these characteristics represent an ample future market, he may wish to continue to appeal to them. Or, he may

(*Continued on Page 9*)

URBAN LAND

Vol. 19, No. 7 **July-August, 1960**

OFFICIAL PUBLICATION OF
URBAN LAND INSTITUTE
1200 18th St., N. W., Washington 6, D. C.
Single copies $1.00; 50¢ to U.L.I. Members.

MAX S. WEHRLY, Editor
J. ROSS MCKEEVER, Assoc. Editor

OFFICERS OF
URBAN LAND INSTITUTE

BOYD T. BARNARD, Philadelphia, Pa., President
CLARENCE M. TURLEY, St. Louis, Mo., First Vice President
MAURICE G. READ, Berkeley, Calif., Second Vice President
WAVERLY TAYLOR, Washington, D. C., Secretary
URBAN A. DENKER, Wichita, Kans., Treasurer
MAX S. WEHRLY, Executive Director

CHAIRMEN OF
URBAN LAND INSTITUTE COUNCILS

HUGH POTTER, Houston, Texas
Community Builders' Council
CLARENCE M. TURLEY, St. Louis, Mo.
Central Business District Council
EARL D. HOLLINSHEAD, Pittsburgh, Pa.
Industrial Council

ATTENTION SUSTAINING MEMBERS!

The Fall meeting of the Community Builders' Council will be held in Fort Lauderdale, Florida, September 28-30, at the Galt Ocean Mile Hotel. This session will concentrate on residential community and waterfront development, motor hotels, mobile home parks, small office buildings, and the small shopping center.

The Fort Lauderdale area offers some of the finest examples of these types of development to be found, and will be the subject of study during the field inspection. The regular plan analysis session will reflect the renewed interest being taken by CBC members in the subjects listed above.

Announcements and reservation forms have been sent to the Sustaining membership.

PLANNED INDUSTRIAL PARKS AND DISTRICTS*

George W. Cox, ULI trustee, member of the Executive Group of the Industrial Council, and assistant to the president, The Atchison, Topeka & Santa Fe Railway System, spoke at the California Development Conference, held recently in Los Angeles under sponsorship of the Los Angeles Chamber of Commerce and the Society of Industrial Realtors. His remarks are important alike to business, governmental and civic leaders facing the challenges and opportunities occasioned by urban growth.

To treat the subject properly, we should (1) differentiate between an industrial park and an industrial district, (2) say when the concept took hold and why, (3) point out some of the problems confronting the developer, and (4) tell of advantages to the community, industry, the developer, and the industrial realtor.

Industrial Districts versus Industrial Parks

An industrial district has been defined by Urban Land Institute as "a suitably located tract of land, subdivided and promoted for industrial use by a sponsoring managerial organization." Of course, one could elaborate considerably on that definition. There have been many other definitions, none quite so brief. I think the phrase "with all utilities available" could very well be added.

While there have been many definitions of an industrial park, none of the major organizations dealing in industrial development has come forth with one which they will validate. I include the American Industrial Development Council, American Railroad Development Association, our own Society of Industrial Realtors, and the Urban Land Institute. To these you can add the various planning groups. Perhaps the best definition would be that applied to industrial districts plus such aesthetics as housekeeping, landscaping, greater setbacks and tighter architectural, building, and other controls.

It has become rather popular to call any planned industrial subdivision an industrial park or center. Many developers so restrict them that a large percentage of industry is automatically ruled out.

Some restrictions are necessary and desirable, not only to protect the developer but also the investment of industries locating in the district or park. In addition to proper zoning, most developers protect their clients with deed restrictions or covenants imposed at the time of platting the subdivision.

Most of us are guilty of mislabeling some of our planned and, in many cases, unplanned industrial developments. While I dislike regimentation, I am inclined to go along with the thought of the various organizations mentioned that we should come up with a proper definition of an industrial park and perhaps have such parks certified by a committee from one of these organizations. This may, of course, be impractical because of the tremendous amount of time necessary to inspect and validate all of them.

Distribution Age made a recent survey and last month indicated there are 700 industrial districts in the United States. Many of these are called industrial parks.

When the Concept Took Hold and Why

There were but 33 organized industrial districts prior to 1940. These included Clearing Industrial District and Central Manufacturing District in Chicago, which were among the earliest, coming into being shortly after the turn of the century.

Our own Central Manufacturing District in Los Angeles was established shortly after World War I and is one of the largest, if not the largest, in the world. It now contains 3,300 acres with 534 industries. It would be interesting to know how many times realtors have collected a commission on a single piece of property, especially in the old Vernon section of the district.

Most industrial developers will agree that the development of industrial districts and parks has been primarily a post-World War II program. The park is the most recent vintage and has been heavily publicized during the last decade. However, we should call attention to the fact that there were a few single industry parks established as many as fifty years ago, one of which is General Electric's Nela Park at Cleveland, Ohio.*

As I have stated, the most recent survey of planned industrial subdivisions by *Distribution Age* indicates there are 700 in existence. I believe that less than 100 of these could be termed industrial parks and perhaps not more than 300 could be termed planned industrial districts.

The sharp increase in development of industrial parks and districts has been brought about by a combination of circumstances. These include increased labor costs, new markets created by shifting population and obsolescence. Increased cost of labor forced most industry from multi-story into single-floor, mechanized operation.

Decentralization of industry brought about by the great shift in population during World War II has also played an important part. Industry, in order to retain its markets, found it necessary to establish branch plants and warehouses to take care of the new markets created by the shifting population.

There was also a period of approximately 15 years that development of new industry in this country practically stood still. There was little or no industrial expansion during the depression of the thirties. The next five years found us preparing for and involved in World War II. These activities brought about controls that precluded the construction of manufacturing plants and distribution warehouses necessary to take care of normal civilian progress.

It is true that much money was spent and many new manufacturing facilities were constructed for the war effort during this period. A few of these facilities have since been converted to civilian use. Needless to say, these were woefully insufficient to care for civilian needs that developed over the 15-year period. Since World War II, industrial expansion into new territories has been rapid.

The industry requiring from one to fifty acres of land found it impractical if not impossible to assume the cost of extending necessary utility lines to serve a single site or to secure proper zoning and make other necessary improvements to develop that site.

Many communities throughout the country were confronted with some very difficult decisions whether or not to spend tax money to extend utilities beyond the city limits or even within the city limits to accommodate a small warehouse or industrial plant.

Some of these communities, through their Chambers of Commerce or Industrial Foundations, found the solution by the creation of industrial districts or parks. Many were aided by

---

* As a short word to convey the meaning of industrial parks and planned industrial districts, ULI Assoc. Director suggests using his coined word, *"the Industrict"!*

* Another is the National Cash Register plant in Dayton, Ohio. (ed).

private developers and, in some instances, by their railroads and utility companies.

Acreage was usually selected inside the city or at the periphery, in some cases at a nominal fee, and in other cases at prices ranging as high as $10,000 an acre. The developer was then faced with many problems.

Problems Confronting the Developer

Anyone who has been involved in attempting to develop and promote an industrial district knows of the many problems involved. The selection of a suitably located tract of land is the first problem and is of major importance. However, it does not compare with the problems confronted by the developer after the suitably located land is found. If the property is in multiple ownership, the acquisition can very well require several years, and when I say "several" I mean 8 to 10 years or longer.

After acquisition the developer is faced with problems of planning the subdivision and bringing in utilities, usually at substantial expense. We have also found that providing necessary storm drainage facilities in some cases will necessitate an expenditure of as much as $1,500 an acre. The developer must not only take care of the storm water on his property, but must be sure he knows where it is going. All too often he must pay a tidy sum for the drainage beyond his property line.

In developing a recent tract, we found that 20 per cent of the land was lost to areas necessary for streets, tracks, storm drains, and utility lines. The average cost for paving exceeded $2,000 per acre; storm drainage over $1,700 per acre, while water and sewer added an additional $1,000 per acre. Miscellaneous expenses including engineering, planning, license and filing fees will add another $1,300 an acre. This makes a total of $6,000 an acre without considering cost of property, its grading or leveling. Grading and leveling a piece of property can run into a substantial sum.

Normally, a developer will not acquire property requiring excessive grading costs, but there are some instances where business judgment will dictate the absolute necessity of developing property where the grading may run as high as $2,000 to $5,000 an acre or higher.

At this point, it might be well to present actual development figures for one of our smaller districts which I consider average:

80 acres of land at $2,000 per acre	$160,000
Bring sanitary sewer to district	37,800
Cost of sanitary sewer within district	40,600
Cost of storm sewer within district	55,800
Cost of water lines within district	23,300
Cost of paving streets within district	120,600
Miscellaneous costs including engineering, insurance, inspection and license fees	35,500
	$473,600

Fifteen acres, or about 19 per cent of the area, was lost to rights-of-way for tracks and streets. This left 65 acres of salable property costing around $7,286 an acre.

Bear in mind this is the *tailored cost.* To this must be added sales promotion expense, commissions, taxes and interest, not to mention the profit for the developer.

The developer should retain as much flexibility as possible in his subdivision. If required to file a plat, often a preliminary plat for the entire parcel is all that is required initially. Final platting can then be filed on segments of the development as needed.

Advantages to the Community, Industry, the Developer and the Industrial Realtor

The advantages of an industrial district to industry are immediately apparent. It provides a "home" that is protected in much the same manner as our better residential districts. This is especially true in areas where there is no city or county zoning.

When a firm locates in the planned industrial park or district, it doesn't have to worry about negotiating for proper zoning, construction of utility lines or streets. These are already provided and the firm pays only its prorata share, rather than the entire cost of bringing utilities several hundred feet to several miles at its expense. Generally speaking, it is also much easier to secure advantageous financing.

The community is benefited because the industrial subdivision gathers many industries and warehouses in one locale that would otherwise be scattered throughout the city. It reduces the number of zoning problems or variances.

The establishment of a district or park provides an excellent climate for attracting outside industry. This, in turn, provides an excellent tax source with a minimum of effort on the part of the community.

To the developer, the district provides a source of pride and satisfaction in watching buildings "grow" in his development. Of course, he also makes a profit, provided proper study of the economics of the project was made prior to starting the venture.

To the railroads it provides traffic which is their life blood. To real estate men it provides a ready-made stock in trade, as I am sure most developers pay commissions on sale of property in their districts.

The community is interested primarily in new jobs and a new tax base. The railroads are primarily interested in developing freight traffic. The private developer's primary interest is a profit on his real estate venture. Developing of industrial districts or parks can be a profitable and rewarding experience if proper care is used in selecting the community and the site.

FACTORS IN BUSINESS OFFICE RELOCATION PLANS

As reported by *Passenger Transport,* accessibility of transportation is the first consideration of business firms when studying available office space prior to reaching a decision as to location of new quarters, according to a survey conducted among business organizations throughout the United States by the real estate firm of H. K. Negbaur & Co., Inc., New York City leasing specialists.

Summarizing the survey's findings, the leasing firm gave the following tabulation of subjects included in the questionnaire survey and the percentage of respondents accorded first consideration in each instance:

Accessibility of transportation, 26 per cent; rental, 25 per cent; accessibility of customers, 18 per cent; air-conditioning and new "prestige" building, each 12 per cent; inexpensive restaurants and luncheonettes nearby for employees and garage in building, each two per cent; Post Office nearby, number of elevators serving a floor, hung ceiling with recessed fluorescent lights, each one per cent.

Approximately 13 per cent of 750 business organizations to whom the research firm submitted its survey questionnaire participated. A broad range of industries was represented among the 103 businesses responding.

INDUSTRIAL "PARK" COVENANTS
RESEARCH TRIANGLE, NORTH CAROLINA

Since Governor Luther H. Hodges' article, "The Research Triangle," appeared in the June issue of *Urban Land*, we have had numerous requests for more information on the restrictions and controls that govern its development. Reproduced in full, below, are the Protective Covenants in effect. In order to round out the regulations applying to the Triangle, the amendment to the Durham County Zoning Ordinance is also reproduced.

It is very important to note carefully the following statement by Pearson H. Stewart, Vice President—Planning of the Triangle, regarding administration of the performance standards in the zoning code—one of the major weaknesses in this type of regulation. (See Performance Standard Zoning, *Urban Land*, June 1960)

Mr. Pearson says: "You will note that the performance standards are contained primarily in the zoning ordinance although the deed restrictions in substance includes them by reference.

"We recognize that we in the Park and the appropriate county zoning administrators do not have the skill and knowledge to administer these performance standards properly. Accordingly, we have made arrangements with appropriate members of the faculty at North Carolina State College and at the University of North Carolina for standard measurements as appropriate. Several departments at State College and at the University have available the appropriate measuring devices and personnel competent to use them and to evaluate the results.

"Bob Anderson of Chapel Hill and I did the leg work in preparing the Research District zoning provisions. The performance standard provisions were reviewed by appropriate faculty people who are consultants to industry, by scientists and engineers of the Research Triangle Institute, one of the Park's occupants, and by the officials of the Chemstrand Corporation, the Park's first industrial laboratory."

NORTH CAROLINA
WAKE AND DURHAM COUNTIES

CONDITIONS, COVENANTS, RESTRICTIONS AND RESERVATIONS

AFFECTING PROPERTY OF:
THE PINELANDS COMPANY, INCORPORATED
KNOWN AS THE RESEARCH TRIANGLE PARK

THIS DECLARATION, made this first day of September, 1959, by THE PINELANDS COMPANY, INCORPORATED, hereinafter called the Grantor:

WITNESSETH:

WHEREAS, the Grantor is the owner of the real property described in Clause I of this declaration; and

WHEREAS, the Grantor is desirous of subjecting the real property described in Clause I to the conditions, covenants, restrictions and reservations hereinafter set forth, each and all of which is and are for the benefit of said property and for each owner thereof, for the benefit of all other properties which may be included in the Research Triangle Park, as hereinafter described, and for each owner thereof, as is more particularly set forth in Clause II;

NOW, THEREFORE, THE PINELANDS COMPANY, INCORPORATED, hereby declares that the real property described in and referred to in Clause I hereof is, and shall be, held transferred, sold, conveyed, leased, subleased and occupied subject to the conditions, covenants, restrictions and reservations hereinafter set forth.

Clause I

PROPERTY SUBJECT TO THIS DECLARATION

The real property, which is now and shall be held, transferred, leased, subleased and occupied subject to the conditions, covenants, restrictions and reservations set forth herein, is located in Durham and Wake Counties, State of North Carolina, and is more particularly described as follows, to-wit:

BEGINNING at a point in the western boundary of the Durham County Research District, as the same exists on the effective date of these covenants, and as the same is more particularly shown on map of said Research District on file in the office of the Administrator of the Durham County Zoning Commission, said point being 2700 feet due south of the northwesternmost corner of the property of The Pinelands Company, Incorporated, located in Durham County; runs thence along the western line of the Durham County Research District to a corner of said Durham County Research District, said corner being located 1030 feet east of the center line of Alston Avenue and approximately 2780 feet due north of the center line of Hopson Road; runs thence due south to the center of Kit Creek Road in Wake County; runs thence in an easterly direction along the center of Kit Creek Road, as it meanders to a point in said road located 700 feet from the center line of the Southern Railway Company right of way; runs thence in a northerly direction in a line parallel to and 700 feet westerly of the center line of the right of way of the Southern Railway Company to a point which is located 1373.44 feet south of the northeastern corner of the property of The Pinelands Company, Incorporated, (measured along the center line of the Southern Railway Company right of way) and 700 feet due west of the center line of said right of way; runs thence in a westerly direction to the point of Beginning.

Clause II

CONDITIONS, COVENANTS, RESTRICTIONS RESERVATIONS AND EASEMENTS

1. PURPOSE

The real property described in Clause I hereof is subject to the conditions, covenants, restrictions and reservations hereby declared for the following purposes:

(a) To establish the Research Triangle Park as an area devoted to research activities, and related operations and activities which can benefit from a locational relationship with North Carolina State College, the University of North Carolina and Duke University; with the express purpose of furthering the development of the State of North Carolina.

(b) To develop the Research Triangle Park with a park-like character which will ensure its being a continuing asset to the Research Triangle area and to the State of North Carolina;

(c) To ensure adequate and reasonable development of the Research Triangle Park;

(d) To ensure proper, desirable use and appropriate development and improvement of each site within the Research Triangle Park;

(e) To protect the owners of buildings against improper and undesirable use of surrounding building sites as will depreciate the value of their properties;

(f) To guard against the erection of structures built of improper or unsuitable materials;

(g) To encourage the erection of attractive improvements, with appropriate locations on building sites thereof;

(h) To ensure and maintain proper set backs from streets, and adequate open spaces between structures which will insure a park-like character;

(i) In general, to provide for a high type and quality of improvement of said property.

2. RESEARCH TRIANGLE PARK OWNERS AND TENANTS ASSOCIATION

There is hereby established the Research Triangle Park Owners and Tenants Association, hereinafter referred to as the "Association". Each owner or lessee of one acre or more of land within the Research Triangle Park which is subject to these conditions, covenants, restrictions and reservations and which is used for research purposes, specifically excluding The Pinelands Company, Incorporated, is a member of the Association. Land shall be deemed to be used for research purposes when the principal facility located thereon is for such purpose, or if such facility has not been completed, when

the foundations therefor have been laid in accordance with plans approved by the Board of Design.

Voting rights for members of the Association are based on the following schedule:

Owners of land—two votes for each acre of land owned and not leased; one vote for each acre of land owned and leased.

Lessees of land—one vote for each acre of land and in the tract leased. Where there is more than one tenant, the total number of votes (equal to the total number of acres in the appropriate tract) allowed the lessees of the tract will be divided proportionately among the tenants according to that portion of the total floor space each occupies.

No owner who owns less than one acre shall be entitled to a vote, and no lessee whose proportionate voting right would result in its having less than one vote shall be entitled to any vote.

The Association may establish its own by-laws for the conduct of its affairs, which shall include reasonable notice to each member prior to any meeting.

Decisions of the Association shall be by majority of votes cast, except as otherwise provided herein.

3. Board of Design

There is hereby established a Board of Design which shall consist of five members. So long as 20% or more of the Research Triangle Park acreage subject to these covenants, exclusive of public roadways and areas not restricted to research purposes is owned by The Pinelands Company, Incorporated, three members of such Board shall be appointed by that company and two members of that Board shall be elected by members of the Association. At such time as less than 20% of the land subject to these covenants exclusive of public roadways and areas not restricted to research purposes is owned by The Pinelands Company, Incorporated, that company shall appoint two members of such Board and three members thereof shall be elected by members of the Association. The members of such Board appointed by The Pineland Company, Incorporated, may be, but need not be, members or employees or representatives of members of the Association. The term of office of the members of the Board of Design shall be for one year and shall run from September 1st of each year through the 31st day of August of the succeeding year.

No construction or exterior alteration of buildings, utilities, signs, pavements, landscaping and other facilities may be initiated without approval of plans by the Board of Design.

The Board of Design shall either approve or disapprove any plans submitted to it within thirty (30) days from the date on which they are submitted to the said Board, and failure to either approve or disapprove within this period shall constitute approval of said plans.

Three members of the Board of Design shall constitute a quorum. Actions of the Board will be by majority vote of those members in attendance at any meeting at which there is a quorum present.

The Board of Design shall promulgate by-laws and operating procedures for the conduct of its affairs; such by-laws shall provide for reasonable notice to each Board member prior to any meeting.

The following information, as appropriate, shall be submitted to the Board of Design for its approval of any plans:

(a) Preliminary architectural plans for the proposed building or buildings.

(b) A site plan for traffic engineering analysis, showing location and design of buildings, driveways, driveway intersections with streets, parking areas, loading areas, maneuvering areas and sidewalks.

(c) A grading plan and a planting plan, including screen walls and fences, for analysis of adequacy of visual screening, erosion control and landscape architecture design.

(d) A site plan showing utilities and utility easements, including any waste disposal fields.

(e) An estimate of the maximum number of employees contemplated for the proposed development and timing of shifts during which they would work.

(f) Plans for all signs to be erected, including details of signs location, design, size, color and lighting.

(g) A description of proposed operations in sufficient detail to permit judgment of whether or not they are permitted uses under the terms of then existing zoning ordinances.

(h) A description of proposed operations in sufficient detail to permit judgment of the extent of any noise, odor, glare, vibration, smoke, dust, gases, hazard radiation, radioactivity, electrical radiation or liquid wastes that may be created.

(i) Engineering and architectural plans for the solution of any problem indicated by item (h) above, including any necessary plans for compliance with the performance standards contained in the then existing zoning ordinance.

(j) Any other information required in order to ensure compliance with requirements contained herein.

4. Appeal From Board of Design

The Board of Design shall promptly notify in writing the owners and tenants of all lands lying within 500 yards of the property lines of any tract as to which proposed plan is submitted to it for approval, and shall give similar notice as to the action taken by it. Like notices shall also be served upon such individual as the Research Park Owners and Tenants Association may designate to receive such notices.

Any owner or tenant including The Pinelands Company, Incorporated, whose property is subject to these conditions, covenants, restrictions and reservations may within thirty (30) days after action or decision by the Board of Design or after a plan is approved by failure of the Board of Design to act upon it, appeal therefrom to the Appeal Board hereinafter provided. The Appeal Board shall consist of three members, one of whom shall be appointed by The Pinelands Company, Incorporated, and one of whom shall be elected by the members of the Associations. The third member of such Appeal Board shall be a person selected by the other two members or in the event they are unable to agree upon such third member, then such third member shall be a person designated by the then President of Duke University. The terms of office of the members of the Appeal Board shall be for three (3) years commencing September 1, 1959. It shall be sufficient and timely notice of appeal to the Appeal Board to direct a letter to such Board at its usual address and to deposit the same in the United States mail. The Appeal Board shall render its decision on all matters properly appealed to it within thirty (30) days from the date of such appeal. The decision of the Appeal Board shall be final. The Appeal Board shall keep a written record of all of its proceedings and records which records shall be open to inspection by any owner or tenant.

5. Use Regulations

(a) *Land Restricted to Research Purposes.* No land located within the Research Triangle Park shall be used for other than research purposes and work incidental thereto. This restriction shall not prevent The Pinelands Company, Incorporated, from constructing, owning, operating, leasing or conveying property for service facilities or for commercial or recreational facilities for the primary use, enjoyment and convenience of owners and tenants of the Research Triangle Park and their employees. Provided, however, that the type of such facility to be admitted to the Research Triangle Park and the location within said Park of each such facility shall be approved by the Association. Such facilities likewise shall be subject to the provisions of Sections 3 and 4 of Clause II of this declaration.

(b) *Manufacturing Prohibited.* No manufacturing or processing enterprises shall be conducted except as such activities are adjuncts of research activities conducted within the Research Triangle Park. There shall be no goods or products manufactured primarily for sale.

(c) *Fences and Walls.* No fence, masonry wall, hedge or mass planting shall extend into any front or side yard of any building except with the approval of the Board of Design.

6. Right-of-Way Easements

Each owner and tenant of property subject to these restrictions hereby agrees to cooperate with The Pinelands Company, Incorporated, in the planning and granting of all easements necessary and reasonable for the further development of the Park and which do not interfere with present use or future development of its property. Easements may include those for gas, water,

sewage, telephone, entrance and access roads, and electrical lines. Nothing contained in this section shall be deemed to require the purchaser to grant any specific easement, nor to grant easements or rights of way without full compensation therefor.

7. Resale Rights

Each owner of property subject to these restrictions agrees that if it receives a bona fide offer to sell any property, located within the Research Triangle Park, that it will, before consummating such sale, present The Pinelands Company, Incorporated, in affidavit form the terms and conditions of such proposed sale; and The Pinelands Company, Incorporated, reserves the right to purchase said property within thirty (30) days thereafter upon the same terms and conditions as may be contained in such bona fide offer made to the purchaser by any third party.

Clause III

General Provisions

1. Effective Date

These covenants shall become effective upon the first day of September 1959.

2. To Run With Land

Except as otherwise set forth herein, the covenants herein set forth shall run with the land and shall bind the present owner, its successors and assigns; and all parties claiming by, through or under them shall be taken to hold, agree and covenant with the owner of said building sites, with its successors and assigns, and with each of them to conform to and observe said restrictions as to the use of building sites and the construction of improvements thereof.

3. Life

Each of the conditions set forth above shall continue and be binding upon the grantor, upon its successors and assigns, and upon each of them and all parties and all persons claiming under them, for a period of thirty (30) years from the first day of September 1959.

4. Amendment

(a) Except for changing the life of these covenants, the same may be amended at any time by The Pinelands Company, Incorporated, with the consent evidenced by favorable vote of the majority of the votes cast, at a meeting of the members of the Research Triangle Park Owners and Tenants Association called for such purpose.

(b) The life of the conditions and covenants may be changed only upon the written consent of The Pinelands Company, Incorporated, and of the fee simple owners, exclusive of The Pinelands Company, Incorporated, owning at least 90% of the lands subject to these covenants exclusive of the lands owned by The Pinelands Company, Incorporated.

5. Separability

Invalidation of any of these covenants or any part thereof by judgments or court order shall in no wise affect any of the other provisions which shall remain in full force and effect.

In Testimony Whereof, The Pinelands Company, Incorporated, has caused this instrument to be signed in its corporate name by its President, and attested by its Secretary, by order of its Board of Directors, the day and year first above written.

The Pinelands Company,
Incorporated

By _____
President

Attest:

_____
Secretary

North Carolina
Wake County

This is to certify that on the ____ day of _____, 19____, before me personally came _____, with whom I am personally acquainted, who, being by me duly sworn, says that _____ is the President and _____ is the Secretary of The Pinelands Company, Incorporated, the corporation described in and which executed the foregoing instrument; that he knows the common seal of said corporation; that the seal affixed to the foregoing instrument is said common seal; and the name of the corporation was subscribed thereto by the said President; and that the said President and Secretary subscribed their names thereto, and said common seal was affixed, all by order of the Board of Directors of said corporation, and the said instrument is the act and deed of said corporation.

Witness my hand and official seal, this ____ day of _____, 19____.

_____
Notary Public

My Commission expires:

_____

ZONING PROVISIONS FOR THE RESEARCH TRIANGLE PARK AND SURROUNDING AREA

Note: The land of the Research Triangle Park in Durham and Wake Counties, North Carolina, and areas adjacent to the Park have been zoned to permit research and agricultural activities exclusively. The action by the Board of County Commissioners of Durham County was taken on August 3, 1959; the action by the County Commissioners of Wake County was taken on January 4, 1960.

The amendment to the Durham County Zoning Ordinance providing for a Research District follows. The provisions in the Wake County Zoning Ordinance providing for a research district are identical to the Durham County provisions except that the district in Wake County is entitled RF District, Research-Farming, and except that the definition of agriculture (40 or more acres or agricultural income of $500 or more) is included in the district provisions rather than referred to elsewhere in the ordinance.

AMENDMENT TO THE DURHAM COUNTY ZONING ORDINANCE

Providing for a Research District

Section XXXVII

RSCH: Research District:

The following regulations shall apply in all RSCH Districts:

1. Uses Permitted:

Intent. It is the intent of the use regulations which follow to limit uses in RSCH Districts to research activities and related operations. It is the further intent of these use regulations to permit production of products, plans, or designs when the primary purpose of such production is research development, or evaluation; production of products primarily or customarily for sale or for use in production operations elsewhere is not a permitted use.

Definition. A tract is a parcel of land which is occupied or intended to be occupied by uses permitted by this section and including any open spaces required by this section.

(a) Laboratories, offices, and other facilities for research, both basic and applied, conducted by or for any individual, organization, or concern, whether public or private.

(b) Production of prototype products when limited to the scale necessary for full investigation of the merits of a product; in no case shall any such product be produced on the premises primarily or customarily for sale or for use in production operations elsewhere.

(c) Pilot plants in which processes planned for use in production elsewhere can be tested; in no case shall any product be produced on the premises in a pilot plant primarily or customarily for sale or for use in production operations elsewhere.

(d) Retail uses incidental to and in support of any uses permitted in paragraphs (a) through (c) above, such as cafeterias, soda or dairy bars, and shops on the same tract as the permitted use. Any such use shall be conducted primarily for the convenience of employees; shall be wholly within a building; and shall have no exterior advertising display.

(e) Operations required to maintain or support any use permitted in paragraphs (a) through (c) above, on the same tract as the permitted use, such as maintenance shops, power plants, keeping of animals, antenna farms, machine shops.

(f) Agricultural or farming purposes as permitted in Section III, subsection 1 of this ordinance; provided, however, that the provisions of Section III, sub-section 2, shall not be applicable to RSCH Districts. Dwelling; provided, however, that the occupants shall be engaged in agricultural activities on the premises as their principal means of livelihood.

2. Building Height Limit.

None.

3. Required Lot Area.

Each tract of land devoted to building uses other than agricultural activi-

ties shall have an area of not less than six (6) acres and an average width of not less than four hundred (400) feet.

4. PERCENTAGE OF LOT COVERED.

Not more than five (5) percent of the total area of a tract shall be covered by buildings and the total floor area of all buildings shall not exceed an area equal to ten (10) percent of the total area of a tract.

5. REQUIRED YARDS.

(a) Yards Facing and Existing or Proposed Street (not including interior circulation roads or drives within an individual tract):

There shall be a required yard adjacent to each existing or proposed street which bounds an individual tract. Such required yard shall have not less than one hundred and fifty (150) feet in depth, plus an additional one (1) foot for each acre of land which is included in the tract, provided that required yards adjacent to a street may be but need not be greater than two hundred and fifty (250) feet in depth. Examples of required yards are shown in Table 1.

Table 1

Size of Tract	Required Yard Adjacent to a Street
6 acres	156 feet
10 acres	160 feet
25 acres	175 feet
50 acres	200 feet
100 acres	250 feet

(b) Yards Adjacent to Interior Property Lines:

There shall be a required yard adjacent to each interior lot line of not less than one hundred and fifty (150) feet in depth except as provided in paragraph (c) below.

(c) Yards Adjacent to Railroads:

Requirements for yards adjacent to interior property lines shall not be applicable to buildings erected adjacent to a railroad or railroad siding.

(d) All required yards shall be kept clear of parking, loading areas for supplies and services except railroad loading areas, and buildings, provided, however, that a gate or security station may be located in a required yard.

6. LOCATION OF ACCESSORY USES.

Notwithstanding the provisions of Section XXV, sub-section A1, of this ordinance, maintenance and support uses permitted in sub-section 1 (e) above shall be permitted on any portion of a tract except within any required yards.

7. PARKING AND LOADING.

Notwithstanding any other provisions or standards contained in this ordinance, parking areas of sufficient size to provide parking for patrons, customers, suppliers, visitors, and employees shall be provided on the premises of each use. Except in the case of agricultural uses not related to research activity, parking areas shall not be placed in any required yard, shall be paved with dust-free, all-weather surface, and shall be properly drained and landscaped. Loading areas for supplies and services shall be sufficient to meet the requirements of each use. Loading areas except railroad loading areas shall not be placed within any required yard and shall be located or properly screened so as to be not visible from any property line.

8. SIGNS.

Billboards or other outdoor advertising signs, other than those identifying the name, business, and products of the person or firm of a principal use located on the premises shall not be permitted. Permitted identification signs may be located in a required yard.

9. STORAGE.

Outside storage of any materials, supplies or products shall not be permitted within any required yard, and further, outside storage shall be located or properly screened so as to be not visible from any property line.

10. PERFORMANCE STANDARDS.

(a) *Intent.* It is the intent of this sub-section to provide that research and related activities shall be established and maintained with proper appearance from streets and adjoining properties and to provide that each such permitted use shall be a good neighbor to adjoining properties by the control of emission of noise, odor, glare, vibration, smoke, dust, liquid wastes, radiation, radioactivity, etc.

It is the further intent of this subsection to state the conditions of construction and operation with which research and related uses will be expected to comply. In many cases the relation of a prospective use to all these performance standards cannot be judged properly at the time of building permit issuance. In such cases, the recipient of the building permit should note that these performance standards, like all other provisions of this ordinance, are continuing obligations and that all research uses will be expected to operate in compliance with these standards.

(b) *Compliance.* The performance standards set forth in sub-paragraph (e) below shall be complied with and any use which fails to comply with these standards shall be in violation of this ordinance and be subject to penalties as accorded by the laws of the State of North Carolina for such violation.

(c) *Measurement.* Each measurable standard shall be measured at the appropriate indicated location.

(d) *Effects of Concurrent Operations.* The sum total of the effects of concurrent operations on two or more tracts measured at any property line shall not be greater or more offensive to the senses than the standards contained herein. Compliance with the provisions of this sub-paragraph by single or mutual changes in operational levels, scheduling of operations, and other adjustments is permitted.

(e) *Standards:*

1. *Landscaping.* All required yards shall either be open landscaped and green areas or be left in a natural state. If any yards are to be landscaped, they shall be landscaped attractively with lawn, trees, shrubs, etc. Any areas left in a natural state shall be properly maintained in a sightly and well-kept condition. Parking areas shall also be maintained in a sightly and well-kept condition.

2. *Noise.* Noise shall be measured on any property line of the tract on which the operation is located. Noise shall be muffled so as not to become objectionable due to intermittence, beat frequency, shrillness or intensity. At the property line the sound pressure level of noise radiated continuously from a facility shall not exceed the values given in Tables 2 and 3 in any octave band frequency. The sound pressure level shall be measured with a Sound Level Meter and an Octave Band Analyzer that conform to specifications published by the American Standards Association. (American Standard Sound Level Meters for Measurement of Noise and Other Sounds, Z24.3-1944, and American Standard Specifications for an Octave-Band Filter Set for the Analysis of Noise and Other Sounds, Z24.10-1953, American Standards Association, Inc., New York, N. Y., shall be used.)

TABLE 2

Maximum permissible sound-pressure levels at specified points of measurement for noise radiated continuously from a facility.

Frequency Band Cycles Per Second	Decibel* Level	
20- 75	69	
75- 150	54	
150- 300	47	
300- 600	41	
600- 1,200	37	
1,200- 2,400	34	
2,400- 4,800	31	
4,800-10,000	28	
10,000-20,000	26)	
20,000-30,000	25)	(to avoid possible interference with animal experiments)
30,000-40,000	24)	
40,000-50,000	23)	

* According to the following formula:

Sound Pressure Level in Decibels equals 10 log $\frac{P_1}{P_2}$

where P_2 equals 0.0002 dynes/cm^2

If the noise is not smooth and continuous, one or more of the corrections in Table 3 below shall be added to or subtracted from each of the decibel levels given above in Table 2.

TABLE 3

Type of Operation or Character of Noise	Correction in Decibels
Noise source operates less than 20% of any one hour period	plus 5*
Noise source operates less than 5% of any one hour period	plus 10*
Noise source operates less than 1% of any one hour period	plus 15*
Noise of impulsive character (hammering, etc.)	minus 5
Noise of periodic character (hum, screech, etc.)	minus 5

* Apply one of these corrections only.

3. *Odors.* Odors from any use hereafter begun shall not be discernible at the property line to a greater degree than odors from plants for the manufacture or fabrication of books, textile weaves, electronic equipment, or other plants in which operations do not result in greater degree of odors. The values given in Table III (Odor Thresholds) Chapter 5, "Physiological Effects", in the "Air Pollution Abatement Manual", by the Manufacturing Chemists' Association, Inc., Washington, D. C., copyright 1951, shall be used as standard in case of doubt concerning the character of odors emitted. In such case the smallest value given in Table III shall be the maximum odor permitted. Detailed plans for the prevention of odors crossing property lines may be required before the issuance of a building permit.

4. *Glare.* Glare, whether direct or reflected, such as from floodlights or high temperature processes, and as differentiated from general illumination, shall not be visible at any property line.

5. *Exterior Lighting.* Any lights used for exterior illumination shall direct light away from adjoining properties.

6. *Vibration.* Vibration shall not be discernible at any property line to the human sense of feeling for three minutes or more duration in any one hour. Vibration at any time shall not produce at any time an acceleration of more than 0.1 gravities or shall result in any combination of amplitudes and frequencies beyond the "safe" range of Table 7 United States Bureau of Mines Bulletin No. 442, "Seismic Effects of Quarry Blasting", on any structure. The methods and equations of said Bulletin No. 442 shall be used to compute all values for the enforcement of this provision.

7. *Smoke.* Measurement shall be of the point of emission. The Ringelman Smoke Chart published by the United States Bureau of Mines shall be used for the measurement of smoke. Smoke not darker or more opaque than No. 1 on said chart may be emitted except that smoke not darker or more opaque than No. 2 on said chart may be emitted for periods not longer than four (4) minutes in any thirty (30) minutes. These provisions, applicable to visible grey smoke, shall also apply to visible smoke of a different color but with an equivalent apparent opacity. The provisions of paragraph 12 below shall apply to smoke.

8. *Dust.* Solid or liquid particles shall not be emitted at any point in concentrations exceeding 0.3 grains per cubic foot of the conveying gas or air. For measurement of the amount of particles in gases resulting from combustion, standard corrections shall be applied to a stack temperature of 500 degrees Fahrenheit and 50% excess air. The provisions of paragraph 12 below shall apply to dust.

9. *Gases.* Fumes or gases shall not be emitted at any point in concentrations or amounts that are noxious, toxic, or corrosive. The values given in Table I (Industrial Hygiene Standards—Maximum Allowable Concentration for eight hour day, five days per week), Table III (Odor Thresholds), Table IV (Concentrations of Substances Causing Pain in the Eyes), and Table V (Exposures to Substances Causing Injury to Vegetation) in the latest revision of Chapter 5, "Physiological Effects", that contains such tables, in the "Air Pollution Abatement Manual", by the Manufacturing Chemists' Association, Inc., Washington, D. C., are hereby established as guides for the determination of permissible concentration or amounts. Detailed plans for the elimination of fumes or gases may be required before the issuance of a building permit. The provisions of paragraph 12 below shall apply to gases.

10. *Hazard.* Any research operation shall be carried on with reasonable precautions against fire and explosion hazards.

11. *Radiation.* Research operations shall cause no dangerous radiation at any property line as specified by the regulations of the United States Atomic Energy Commission.

12. *Radioactivity.* Operations shall cause no radioactivity at any property line in violation of Title 10, Chapter 1, Part 20, Code of Federal Regulations, "Standards for Protection Against Radiation", dated January 16, 1957, or any subsequent revision or amendment thereof and Chapter 481 of the 1959 Session Laws of North Carolina, "The Use of Ionizing Radiation, Radiation Machines, and Radioactive Materials, and Atomic Energy."

13. *Electrical Radiation.* Any electrical radiation shall not adversely affect at any point any operations or any equipment other than those of the creator of the radiation. Avoidance of adverse effects from electrical radiation by appropriate single or mutual scheduling of operations is permitted.

14. *Waste.* All sewage and industrial wastes shall be treated and disposed of in such manner as to comply with the water quality standards applicable to the classification assigned to the receiving waters by the North Carolina Stream Sanitation Committee. Approval of the North Carolina Stream Sanitation Committee of all plans for waste disposal facilities shall be required before the issuance of any building permit. The provisions of paragraph 12 above shall apply to wastes.

PLANITORIAL

(*Continued from Page 2*)

use this information to shift his future emphasis to increase his markets. Also he knows more about the people to whom he will be selling and can appeal to their particular characteristics.

Probably the most important event to the builder occurred when the purchasers were attracted to his particular development. The sign on the property brought 44 per cent to the development and was the most effective means of advertising. Again the builder has the basis for future decisions. He can regard the sign as his best possible advertising device, or he can examine his other mediums and see why they are not bringing the desired results.

The salesman of the future houses knows what features to stress by the indications given him by previous purchasers. The bedrooms, the split-level design, the kitchen facilities, and the lot size were all specified as primary features that were being sought. On the other hand, he also knows what features did not motivate the buyers. The location of the grocery stores in the neighborhood had no effect on the purchasing decision of 90 per cent. The recreation facilities offered in the surrounding area offered no inducement to 72 per cent of the residents. Surprisingly, 72 per cent were not even interested if there were schools in the vicinity.

Every builder who is interested in increasing his future sales wants to know how he can improve his houses. The residents expressed their satisfactions and dissatisfactions with the facilities that they had bought. In response to questions about specific features, 90 per cent said that the closet space was ample, 76 per cent that the kitchen facilities served their needs, 92 per cent that the layout design provided a maximum amount of quiet for their bedrooms, and 92 per cent that the picture window was quite desirable. From this high degree of owner satisfaction, the builder can rely on past specifications of his houses to provide amply for the needs of future purchasers.

The present owners also indicated how the house might be improved. Most of the objections centered around the need for more storage area. The crawl space presently provided was insufficient. The garage, while it served the minimum needs of many, was too small to provide much needed storage space for garden tools and equipment. The utility room was designed in such a manner that it could not properly serve the requirements of some of the residents. The purchasers have given the builder ways to improve his houses and possible means of increasing sales income.

Through the process of interviewing fifty families who purchased homes in Inglewood Manor within the last year, information has been gathered to help the builder improve his operation. He now has a more factual basis for making decisions concerning advertising, selling, and improvements in the product itself. In this way, he can aid himself as well as provide what his purchasers are demanding.

The more significant results of the study have been summarized in tabular form below.

Preferences Limiting Buyers' Search

Types of Dwelling Considered	Per Cent of Families
Detached house only	88
Row or semi-detached	8
Apartment	4

New Construction Attraction

	Per Cent
Only new house	60
Old house considered	40

Residents in Rental Market

	Per Cent
Not consider renting	82
Consider renting	18

Residents Introduced to Inglewood Manor

	Per Cent
Sign on property	44
Advertisement in newspaper	38
Friends	18
Real estate agent	0

Features Primarily Sought

	Number of Families
Split level	14
Kitchen facilities	13
Lot size	12
Three bedrooms	11
Four bedrooms	10
Family room	9
Bathrooms	5
Specific floor plan	5
Sewerage facilities	5
Natural light and air	4
Garage	4
Cellar	3
Quality construction	3
Proximity to employment	3

Spaciousness of Lot Size

	Per Cent
Main attraction—ample ground	68
Ground area not an attraction	32

Location of Grocery Store: Effect on Buying Decision

	Per Cent
No effect at all	90
Consideration given	10

Location of Schools: Effect on Buying Decision

	Per Cent
No effect at all	72
Consideration given	28

Location of Recreational Facilities: Effect on Buying Decision

	Per Cent
No effect at all	82
Consideration given	18

Relationship of Living Area and Quiet Areas

	Per Cent
Maximum quiet provided	92
Maximum quiet not provided	8

Demands for Picture Window or Conventional Window

	Per Cent
Picture window	92
Conventional window	8

Number of Automobiles in Family

	Per Cent
None	0
One	80
Two	20

Civic Functions Attended in Last Year

Number attended	Per Cent
0	64
1	10
2	6
3	4
More than 3	16

Evenings Spent With People on Block

Number of visits	Per Cent
None	34
Once per year	8
Once per month	18
Twice per month	8
Once per week	32

Other information obtained dealt with mortgages, desired features, closets, garages, and utility rooms.

It would be quite interesting to interview separately the husbands in the same families with the same questions, or a similar sample in a similar but different development in the same area, or in a different city. It would also be interesting to evaluate the extent to which former living accommodations and relative presence or absence of various housing and community facilities and environment conditioned the replies. While, as the authors state, no conclusion can properly be drawn from this study beyond that applying to the fifty families in question, a pattern for identical comparative studies that home developers might undertake to advantage and at small cost in their own developments has been pointed out—and by way of suggestion it might be a good method for planning commissions to test some of their theories in the field.

THE DYNAMICS OF URBAN LAND

(*Continued from Page 1*)

nation rewards speculation and exploitation in the use of land; and the extent to which the police power may contribute to the more effective use of condemnation procedures. Analysis will be made of the effect of condemnation practice on the public costs of urban renewal and the validity of the concept of writedown in the reuse of land. The effects of condemnation on the economic position of the owners of condemned land and on land prices and uses of land in contiguous areas will also be examined.

JEROME P. PICKARD

4. *Zoning and Subdivision Regulation*

This study will be concerned with the same central questions as the study on taxation. Its emphasis will be on the ways in which land use regulations have economic significance to community as well as to the user and developer of land.

Zoning regulation will be analyzed for its effectiveness as a positive tool to retard change, to stimulate or guide desired change, and to reduce incompatibility of uses. Special consideration will be given to the conditions under which zoning policy can accelerate or decelerate the rate of change in land uses and land values. Examination will be made of the types of situations where zoning policy gives monopoly value to sites because the supply of given uses is limited by the regulation. The influence of floor area provisions, building height and bulk restrictions upon the flow of investment in the development of income producing property will be examined.

Subdivision regulation will be studied for its influence on the extent, nature and timing of development, and on the flow of investment.

5. *Urban Expressways*

A substantial number of studies of the economic impact of urban expressways have been made but these have for the most part been concerned with the problems in the development of particular highways. Although this type of study is becoming more common throughout the country, available studies and studies in progress do not give consideration to the broader impact of highway location on the community as a whole.

This study will give special attention to the use of the urban highway as an instrument of public policy in the determination of land use. Among other things it will be concerned with the speculative elements as well as the long term trends in property values in areas affected by new highway facilities. It will examine the extent to which aggregate land values may be redistributed, reduced or increased as a result of the construction of new highway facilities.

Consideration will be given to differentiating situations where land values, at the time of construction, are low and land is vacant or sparsely used, from those where land values are relatively high and the land is developed intensively. Analysis will be made of the effects of accessibility on land uses and, conversely, the requirements of accessibility for existing and predetermined uses.

The program will be under the general supervision of the Institute's Research Committee and Executive Director. The Committee is composed of: Leonard P. Reaume, Chairman, Detroit; Miles L. Colean, Washington, D. C.; Newton C. Farr, Chicago; Joseph W. Lund, Boston; Glenn McHugh, New York City; and Larry Smith, Seattle.